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Weekly report of conditions and transactions at Puerto Cortez-Fruit port.

PUERTO CORTEZ, HONDURAS, August 13, 1902.

SIR: I have the honor to make the following report of the conditions and transactions at this port during the week ended August 13, 1902:

Population according to census of 1896, 1,856; present officially extimated population, 2,000. Number of cases and deaths from yellow fever during the week, none; number of cases and deaths from smallpox during the week, none; number of cases and deaths from typhus fever during the week, none; number of cases and deaths from cholera during the week, none; number of cases and deaths from plague during the week, none; number of deaths from other causes during the week, none. Prevailing disease, malarial fever. General sanitary condition of this port and the surrounding country during the week, good.

Bills of health were issued to the following vessels: August 7, steam-ship Anselm; crew, 42; passengers from this port, 5; passengers in transit, 3; baggage disinfected, 11 pieces. August 9, steamship Hiram, crew, 15; passengers from this port, 3; passengers in transit, none; baggage disinfected, none. August 12, steamship Bratten; crew, 15; passengers from this port, none; passengers in transit, none; baggage disinfected, none.

Respectfully,

S. H. BACKUS, Acting Assistant Surgeon.

The SURGEON GENERAL.

ITALY.

Precautions against cholera in Italy—Water supply of Naples.

NAPLES, ITALY, August 5, 1902.

SIR: I have the honor to submit the following report:

Precautions against cholera in Italy.

The memory of the cruel prevalence of Asiatic cholera at Naples in 1884 is sufficiently fresh in the minds of Italians to give great concern whenever there is an epidemic of that disease in a country having direct communication with Italy. In view of the spread of cholera in Egypt at the present time, very definite rules have been issued from the ministry of the interior relating to maritime traffic with infected A daily telegraphic information service has been established at Rome with the Italian consulate at Alexandria and the royal legation at Cairo. Thus the Italian home authorities will be promptly advised of the number of cases of cholera and deaths therefrom in all infected centers, of local and general prophylactic measures, and of the movements of vessels leaving Egypt for Italian ports. A special vigilance will be had over all the vessels mentioned in order to assure attention to the precautionary measures established by the international quaran. tine counsel of Alexandria for the prevention of the spread of cholera in Europe.

The Italian consuls at Alexandria and Port Said have been instructed to announce by telegraph the fact of the departure of any vessel under suspicious circumstances in a bad hygienic condition, lacking a medical officer aboard or adequate means of disinfection, carrying a bad quality of drinking water or having an excessive crowding of passengers, especially steerage or Italian emigrants returning home. To the end that

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any arrivals of vessels in bad condition of health may take place at ports properly provided for the reception of infected ships, it is ordered that all vessels from Egypt bound for Italy shall enter at the ports of Genoa, Leghorn, Naples, Brindisi, and Venice for the mainland, and at Palermo. Messina, and Catania for the island of Sicily.

These maritime sanitary regulations provide that after the admission to free pratique of any vessel from Egypt all persons disembarked, whether passengers or crew, shall be kept under observation for five days, computed from the date of departure from the last Egyptian port. If there is no especial reason for detaining such persons at quarantine, they may go on their way, but the prefect of the province is directed to telegraph their destination to the authorities of the place for which they are bound, so that the necessary surveillance may be continued. Such persons are to receive a daily medical examination.

In addition, the instructions just issued impress upon all public officers the necessity of practicing rigorously all those provisions prescribed in such cases by the sanitary code. This code comprises all the Italian sanitary laws, regulations, instructions, and circulars now in

force.

Naples is much better prepared than in former times to make a resistance against the inroads of cholera. Since the devastating epidemic of 1884 the city has undergone great improvements. It has made decided advances in public hygiene. Large sums of money have been devoted to tearing down filthy and dilapidated buildings that made miserable pest holes of the dirty narrow streets. As a protection against the spread of cholera, should it be by evil fortune again introduced, great dependence is put on the purity of the city water supply. The Serino water, with which the town is liberally provided, is brought to Naples, 30 miles, from a spring near Avellino. The aqueducts run below ground all the way. The water is distributed to the city from tanks at Capodimonte, a place situated on an eminence north of Naples.

The subject of the water supply of Naples is of great interest from an epidemiological and maritime point of view. A large portion of the steamships passing out of the Mediterranean by Gibraltar and Suez carry Serino water in their tanks. It is Serino water that has done much to prevent Naples, a port in such direct communication with the Orient, from inflicting evil on the whole world at times when cholera

prevails in the East.

Naples water.

The history of Naples's water supply extends back to the remote age, 1,000 years B. C., when the Greek colony at Cumae founded the towns of Parthenope (later Palaeopolis, the old city) and Neapolis (the new city), both occupying parts of the present site of Naples. The source of water supply for these settlements is largely a matter of conjecture. The colonists probably depended largely on natural springs and local water courses.

Hundreds of years later Naples enjoyed the advantages of Roman ingenuity in hydraulic engineering. The interesting ruins of ancient aqueducts are familiar to every traveler in Italy. In the early part of the Christian era Naples was provided with one of these wonderful artificial waterways. Like the others, the long rows of supporting arches stretched over hills and valleys. In parts of its course the aqueduct went underground—It acted on the principle of a syphon in places where the water had to climb a hill. This aqueduct was built by the Emperor

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Claudius and was known by the name of the Claudian aqueduct. Numerous remains of the great work are still extant and testify to its extent and perfection. With the changes of time, however, the aqueduct went the same sad way that most things Roman went. Indeed, in the middle ages the former source of supply of the great aqueduct, then In the time of Don Pedro de Toledo the inoperative, was unknown. water supply from a smaller aqueduct, also of Roman construction. was found insufficient for the needs of a growing city, and Littieri, a famous engineer, made an examination of the ruins of the great aqueduct of He found that it had drawn its supply from the high spring of Serino. Thus we see that in the flourishing days of Pompeii and Herculaneum, when the hills and fields in the neighborhood were covered with the villas of the Roman aristocracy, the city of Naples drew its water supply from the same source as to-day. It was not until the supply of water became so scanty and polluted as to be a crying menace that Naples returned to the old Roman methods.

The history of the water supply of Naples, during the period when Serino water was in disuse, is interesting and instructive as a hygienic The water in use in the interval of hundreds of years was brought by the ancient aqueduct of Bolla, from a group of springs near Pomigliano d'Arco, 8 miles from Naples. The water was distributed through the city by canals a little below the level of the streets It was through the opening in the city wall for this aqueduct that the Aragonese entered Naples after a long and ineffective siege. increasing need of the growing city for water led later to the construction of the aqueduct of Carmignano, taking its water from a small river, The water from this source was divided into two parts, one for potable water, the other destined to work the waterwheels of Neapolitan grain mills. These mills were designed to prevent famine in times of siege. The drinking water was carried by a network of canals to the wells with which the habitations of the city were provided and The aqueduct was in part uncovered. The storage was there stored. wells were usually in close proximity to cesspools and were often foul with filth from the soil and surface.

In 1841 the project proposed by Lettieri in 1560 was again taken up, but was not seriously considered until in 1866 after an epidemic of cholera. In 1873 the concession to bring Serino water to the city was granted to an English company. The rights passed in 1877 into the hands of another English corporation. The work was begun in October, 1881.

The higher group of springs of Serino water are 373 meters above the level of the sea and the lower group 330 meters. In times of scantiest supply the springs yield 170,000 cubic meters a day. In the collection all surface water is rejected by appropriate engineering devices. The water is carried about 60,000 meters, nearly 15,000 meters of the course being in galleries which perforate mountains. One of the channels piercing a mountain is 3,200 meters long. Throughout the run the water is conducted in canals hermetically sealed. From the hills of Cancello the water is forced by syphonage. There are three syphons—one with a diameter of 70 centimeters and a length of 22,720 meters, the other with a diameter of 80 centimeters and a length of 18 727 meters. The latter two syphons supply water to the central and lower parts of the city, and the reservoirs they supply have a capacity of 80.000 cubic meters. The smaller syphon goes to the upper reservoir, which has a capacity of 20,000 cubic meters.

The following is the chemical composition of Serino water:

Dry residue, 100° C., 0.2420; dry residue, 180° C., 0.2373; calcined residue, 0.2275; oxygen necessary to oxidize all organic material, 0.00009; total hardness (French scale), 15° 5′; permanent hardness (French scale), 4° 5′. Composition of residue in 1 liter: SiO₂, 0.0167; CO₂, 0.663; SO₃, 0.167; N₂O₅, 0.0008; chlorine, 0.0073; oxide of Fe and Al. 0.0030; CaO. 0.0708; MgO, 0.0162.

A bacteriological analysis of Serino water is made every day by the health authorities of Naples. The annual mean is 33 to 38 colonies for each cubic centimeter. The analysis made August 1, 1902, showed 34 colonies for each cubic centimeter of water taken from a city faucet. Of these colonies of microorganisms, 2 liquefied gelatin and 1 produced mold.

Munson, in his American "Theory and practice of military hygiene," says that, among natural waters, a sample which contains but 100 colonies per cubic centimeter is usually regarded as very pure, while water containing up to 500 per cubic centimeters is classed as good.

Respectfully,

J. M. EAGER,
Passed Assistant Surgeon.

The Surgeon General.

Report from Naples-Cholera in Egypt-New steamship line proposed.

NAPLES, ITALY, August 11, 1902.

SIR: I have the honor to report that for the week ended August 9, 1902, the following ships were inspected at Naples:

August 5, the steamship Roma, of the Fabre Line, bound with passengers and cargo for New York. There were inspected and passed 969 steerage passengers and 350 pieces of large baggage; 1,000 pieces of baggage were disinfected by steam. The rejection of 36 steerage passengers was advised.

August 7, the steamship Lahn, of the North German Lloyd Steamship Company, bound with passengers and cargo for New York. There were inspected and passed 307 steerage passengers and 91 pieces of large baggage; 350 pieces of baggage were disinfected by steam. The rejection of 14 steerage passengers was advised.

August 8, the steamship *Perugia*, of the Anchor Line, bound with passengers and cargo for New York. There were inspected and passed 742 steerage passengers and 192 pieces of large baggage; 850 pieces of baggage were disinfected by steam. The rejection of 43 steerage passengers was advised.

August 9, the steamship *Scotia*, of the Hamburg-American Line, bound with passengers and cargo for New York. There were inspected and passed 536 steerage passengers and 104 pieces of large baggage; 850 pieces of baggage were disinfected by steam. The rejection of 30 steerage passengers was advised.

Asiatic cholera in Egypt.

Under date of August 7, 1902, it was reported that Asiatic cholera, which it was hoped could be kept away from Alexandria, has appeared in that port. August 7, 5 cases were reported from Alexandria. The following day 18 cases were reported from Cairo. but no additional cases from Alexandria. In all Egypt there have been about 900 cases since July 15, 1902.